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WHAT IS CLAIMED IS:

1. A lamphead for use in semiconductor processing,  
comprising:

5 a monolithic member; and

a plurality of lamp receptacles and reflector cavities  
formed in the monolithic member, each lamp receptacle adapted  
to support a lamp and each reflector cavity shaped to act as a  
reflector for the lamp.

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2. The lamphead of claim 1, further comprising:  
a plurality of coolant passages formed in the monolithic  
member.

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3. The lamphead of claim 1, wherein the monolithic  
member comprises at least one of copper and aluminum.

4. The lamphead of claim 1, further comprising:  
a reflective coating upon a surface of each reflector  
20 cavity.

5. The lamphead of claim 4, wherein the reflective  
coating comprises at least one of gold and a dielectric stack  
on a gold layer.

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6. The lamphead of claim 1, further comprising:  
a plurality of lead passages formed in the monolithic  
member, each lead passage extending between a lamp receptacle

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and a reflector cavity, and adapted to receive a portion of a lamp.

7. The lamphead of claim 1, further comprising:  
5 at least one lampholder having receptacles for the outer leads of a lamp

a ferrofluid; and  
one or more magnets disposed about the lampholder and maintaining the position of the ferrofluid near the

10 receptacles;

such that when the outer leads of a lamp are inserted into the lampholder receptacles, the ferrofluid surrounds the outer leads thereby suppressing arcing between the outer leads.

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15 8. The lamphead of claim 7, wherein:  
the outer leads of the lamp are magnetic, such that the magnets maintain the position of the lamp.

9. A semiconductor processing system, comprising:  
20 a process chamber having a support on which a substrate may be positioned during processing; and  
a monolithic lamphead having a plurality of lamp receptacles and reflector cavities formed therein, each lamp receptacle adapted to support a lamp and each reflector cavity  
25 shaped such that the lamps direct radiant energy onto a substrate on the support.

10. The semiconductor processing system of claim 9,  
further comprising:  
a plurality of coolant passages formed in the monolithic  
lamphead near the reflector cavities.

11. The semiconductor processing system of claim 9,  
further comprising:  
a reflective coating upon a surface of each reflector  
cavity.

12. The semiconductor processing system of claim 9,  
further comprising:  
a plurality of lead passages formed in the monolithic  
lamphead, each lead passage in communication with a lamp  
receptacle and adapted to receive a lamp seal.

13. The semiconductor processing system of claim 9,  
further comprising:  
at least one lampholder having receptacles for the outer  
leads of a lamp

a ferrofluid; and  
one or more magnets disposed about the lampholder and  
maintaining the position of the ferrofluid near the  
receptacles;

such that when the outer leads of a lamp are inserted into  
the lampholder receptacles, the ferrofluid surrounds the outer  
leads thereby suppressing arcing between the outer leads.

14. The semiconductor processing system of claim 13,  
wherein:

the outer leads of the lamp are magnetic, such that the  
magnets maintain the position of the lamp.

15. An apparatus for processing a substrate, comprising:  
a process chamber having a support on which a substrate  
may be positioned during processing; and

a monolithic lamphead having a plurality of lamp  
receptacles and reflector cavities formed therein, each lamp  
receptacle adapted to support a lamp and the reflector cavities  
shaped such that the lamps direct radiant energy onto a  
substrate on the support.

16. The apparatus of claim 15, further comprising:  
a plurality of coolant passages formed in the monolithic  
lamphead.

17. The apparatus of claim 15, further comprising:  
a reflective coating upon a surface of each reflecting  
cavity.

18. The apparatus of claim 15, further comprising:  
a plurality of lead passages formed into the monolithic  
lamphead, each lead passage in communication with a lamp  
receptacle and adapted to receive a lamp seal.

19. The apparatus of claim 15, further comprising:

at least one lampholder having receptacles for the outer  
leads of a lamp

a ferrofluid; and

one or more magnets disposed about the lampholder and  
5 maintaining the position of the ferrofluid near the  
receptacles;

such that when the outer leads of a lamp are inserted into  
the lampholder receptacles, the ferrofluid surrounds the outer  
leads thereby suppressing arcing between the outer leads.

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20. The apparatus of claim 19, wherein:

the outer leads of the lamp are magnetic, such that the  
magnets maintain the position of the lamp.

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